

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

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1. (Currently Amended) A receiver for demultiplexing a digital data stream, the digital data stream including data packets each having a packet identifier, so as to retain only those data packets required by the receiver, the receiver comprising:

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input circuitry for receiving the digital data stream;

a memory for storing packet identifiers of corresponding to data packets required by the receiver and separate from the circuitry for receiving the digital data stream;

a first control circuit for controlling the storage in the memory of the packet identifiers;

a second control circuit for extracting a packet identifier from a data packet in the digital data stream input to the input circuitry; and

a third control circuit for receiving the extracted packet identifier and determining whether such matches one of the packet identifiers stored in the memory, for setting a match signal to the second control circuit responsive to a match, and for outputting an address in the memory responsive to a match, wherein the second control circuit accesses the address in the memory to retrieve control information associated with the packet identifier and demultiplexes the input data packet responsive to the match signal.

2. (Canceled)

3. (Previously Presented) The receiver of claim 1 wherein responsive to the control information the second control circuit controls the transfer of the input data packet to a destination address identified by the control information.

4. (Previously Presented) The receiver of claim 1, wherein responsive to the control information the second control circuit processes the input data packet and transfers the processed input data packet to a destination address identified by the control information.

5. (Original) The receiver of claim 1 wherein responsive to the match signal not being set, the second control circuit discards the input data packet.

6. (Original) The receiver of claim 1 in which the digital data stream is an MPEG-2 encoded stream.

7. (Previously Presented) The receiver of claim 3 in which the input data packet comprises a packetized elementary stream.

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8. (Previously Presented) The receiver of claim 4 in which the input data packet comprises program specific information, and the receiver further comprises a filter controlled by the second control circuit for filtering sections in the input data packet so as to retain only those data packets having sections required by the receiver.

9. (Original) The receiver of claim 1 in which first control circuit is a receiver processor, the second control circuit is a transport processor, and the third control circuit is a search engine.

10. (Currently Amended) A set-top-box including a receiver for demultiplexing a digital data stream, the digital data stream including data packets each having a packet identifier, so as to retain only those data packets required by the receiver, the receiver comprising:

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input-circuitry for receiving the digital data stream;
a memory for storing packet identifiers of corresponding to data packets required by the receiver and separate from the circuitry for receiving the digital data stream;

a first control circuit for controlling the storage in the memory of the packet identifiers;

a second control circuit for extracting a packet identifier from a data packet in the digital data stream input to the input circuitry; and

a third control circuit for receiving the extracted packet identifier and determining whether such matches one of the packet identifiers stored in the memory, for setting a match signal to the second control circuit responsive to a match, and for outputting an address in the memory responsive to a match, wherein the second control circuit accesses the address in the memory to retrieve control information associated with the packet identifier and demultiplexes the input data packet responsive to the match signal.

11. (Currently Amended) A method of demultiplexing a digital data stream input to a receiver, the digital data stream including data packets each having a packet identifier, so as to retain only those data packets required by the receiver, comprising the steps of:

inputting the digital data stream;

storing, in a memory, separate from the data stream and under the control of a first control circuit, packet identifiers of data packets required by the receiver;

extracting, under the control of a second control circuit, a packet identifier from a data packet in the input digital data stream;

determining, under the control of a third control circuit, whether the extracted packet identifier matches one of the stored packet identifiers;

setting a match signal responsive to a match determined by the third control circuit;

outputting, responsive to a match, an address in memory;

accessing, under the control of the second control circuit, the address in memory; retrieving control information associated with the packet identifier and stored at such address; and

demultiplexing, under the control of the second control circuit, the input data packet responsive to the match signal.

12. (Canceled)

13. (Previously Presented) The method of claim 11 further comprising the step of:

transferring, under the control of the second control circuit, the input data packet to a destination address identified by the control information.

14. (Previously Presented) The method of claim 11 further comprising the steps of:

processing, under the control of the second control circuit, the input data packet in dependence on the control information; and

transferring, under the control of the second control circuit, the processed input data packet to a destination address identified by the control information.

15. (Original) The method of claim 11 in which the step of demultiplexing comprises discarding the input data packet responsive to the match signal not being set.

16. (Original) The method of claim 11 in which the digital data stream is an MPEG-2 encoded stream.

17. (Previously Presented) The method of claim 16 in which the input data packet comprises a packetized elementary stream.

18. (Currently Amended) The method of claim 16 in which the input data packet comprises program specific information, and wherein said ~~processing~~ demultiplexing step comprises:

filtering sections in the input data packet so as to retain only those data packets having sections required by the receiver.

19. (Original) The method of claim 11 in which the step of determining a match comprises systematically searching the memory.

20. (Currently Amended) A method of decoding a broadcast digital data signal in a set-top-box comprising:

inputting the digital data stream;

storing, in a memory separate from the data stream and, under the control of a first control circuit, ~~all~~ packet identifiers of data packets required by the receiver set-top-box;

extracting, under the control of a second control circuit, a packet identifier from a data packet in the input digital data stream;

determining, under the control of a third control circuit, whether the extracted packet identifier matches one of the stored packet identifiers;

setting a match signal responsive to a match determined by the third control circuit;

outputting, responsive to a match, an address in memory;

accessing, under the control of the second control circuit, the address in memory;

retrieving control information associated with the packet identifier and stored at such address; and

demultiplexing, under the control of the second control circuit, the input data packet responsive to the match signal.

21. (New) A receiver for demultiplexing a digital data stream, the digital data stream including data packets each having a packet identifier, so as to retain only those data packets required by the receiver, the receiver comprising:

input circuitry for receiving the digital data stream;

a first data structure for storing addressing information that is accessed based on packet identifiers;

a second data structure for storing control information that is accessed based on addressing information extracted from the first data structure;

a first control circuit for extracting a packet identifier from a data packet in the digital data stream input to the input circuitry; and

a second control circuit for receiving the extracted packet identifier and determining whether such matches one of the packet identifiers in the first data structure, for setting a match signal to the first control circuit responsive to a match, and outputting addressing information responsive to a match, wherein the first control circuit accesses the second data structure to retrieve control information associated with the addressing information and demultiplexes the input data packet responsive to the match signal.

22. (New) The receiver of claim 21 wherein responsive to the control information the first control circuit controls the transfer of the input data packet to a destination address identified by the control information.

23. (New) The receiver of claim 21, wherein responsive to the control information the first control circuit processes the input data packet and transfers the processed input data packet to a destination address identified by the control information.

24. (New) The receiver of claim 21 wherein responsive to the match signal not being set, the first control circuit discards the input data packet.

25. (New) The receiver of claim 21 in which the digital data stream is an MPEG-2 encoded stream.

26. (New) The receiver of claim 22 in which the input data packet comprises a packetized elementary stream.

27. (New) The receiver of claim 23 in which the input data packet comprises program specific information, and the receiver further comprises a filter controlled by the first

control circuit for filtering sections in the input data packet so as to retain only those data packets having sections required by the receiver.

28. (New) The receiver of claim 21 in which first control circuit is a transport processor, and the second control circuit is a search engine.

29. (New) A set-top-box including a receiver for demultiplexing a digital data stream, the digital data stream including data packets each having a packet identifier, so as to retain only those data packets required by the receiver, the receiver comprising:

input circuitry for receiving the digital data stream;

a first data structure for storing addressing information that is accessed based on packet identifiers;

a second data structure for storing control information that is accessed based on addressing information extracted from the first data structure;

a first control circuit for extracting a packet identifier from a data packet in the digital data stream input to the input circuitry; and

a second control circuit for receiving the extracted packet identifier and determining whether such matches one of the packet identifiers in the first data structure, for setting a match signal to the first control circuit responsive to a match, and outputting addressing information responsive to a match, wherein the first control circuit accesses the second data structure to retrieve control information associated with the addressing information and demultiplexes the input data packet responsive to the match signal.

30. (New) A method of demultiplexing a digital data stream input to a receiver, the digital data stream including data packets each having a packet identifier, so as to retain only those data packets required by the receiver, comprising the steps of:

inputting the digital data stream;

storing control information in a first data structure;

storing packet identifiers and corresponding addressing information in a second data structure;

extracting, under the control of a first control circuit, a packet identifier from a data packet in the input digital data stream;

determining, under the control of a second control circuit, whether the extracted packet identifier matches one of the packet identifiers in the second data structure;

setting a match signal responsive to a match determined by the second control circuit;

outputting addressing information from the second data structure responsive to a match;

retrieving, under control of the first control circuit and based on the outputted addressing information, control information from the first data structure; and

demultiplexing, under the control of the first control circuit, the input data packet responsive to the match signal.

31. (New) The method of claim 30 further comprising the step of:

transferring, under the control of the first control circuit, the input data packet to a destination address identified by the retrieved control information.

32. (New) The method of claim 30 further comprising the steps of:

processing, under the control of the first control circuit, the input data packet in dependence on the control information; and

transferring, under the control of the first control circuit, the processed input data packet to a destination address identified by the retrieved control information.

33. (New) The method of claim 30 in which the step of demultiplexing

comprises discarding the input data packet responsive to the match signal not being set.

34. (New) The method of claim 30 in which the digital data stream is an MPEG-2 encoded stream.

35. (New) The method of claim 34 in which the input data packet comprises a packetized elementary stream.

36. (New) The method of claim 34 in which the input data packet comprises program specific information, and wherein said demultiplexing step comprises:
filtering sections in the input data packet so as to retain only those data packets having sections required by the receiver.

37. (New) The method of claim 30 in which the step of determining a match comprises systematically searching the second data structure.

38. (New) A method of decoding a broadcast digital data signal in a set-top-box comprising:

inputting the digital data stream;

storing, in a first data structure, control information;

storing, in a second data structure, packet identifiers required by the set-top-box and addressing information corresponding to the packet identifiers;

extracting, under the control of a first control circuit, a packet identifier from a data packet in the input digital data stream;

determining, under the control of a second control circuit, whether the extracted packet identifier matches one of the packet identifiers stored in the second data structure;

setting a match signal responsive to a match determined by the second control circuit;

outputting, responsive to a match, addressing information stored in the second data structure;

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retrieving, under control of the first control circuit and based on the outputted
addressing information, control information from the first data structure; and
demultiplexing, under the control of the first control circuit, the input data packet
responsive to the match signal.